

REMARKS

Reconsideration of this application and the rejection of claims 1-4, 6-10 and 12-20 are respectfully requested. Applicant has attempted to address every objection and ground for rejection in the Office Action dated August 3, 2009 (Paper No. 20090728) and believes the application is now in condition for allowance. The claims have been amended to more clearly describe the present invention.

Claim 20 is objected to because the term “position” in line 14 has an extra space. Applicant has amended claim 20 to remove the extra space in this term.

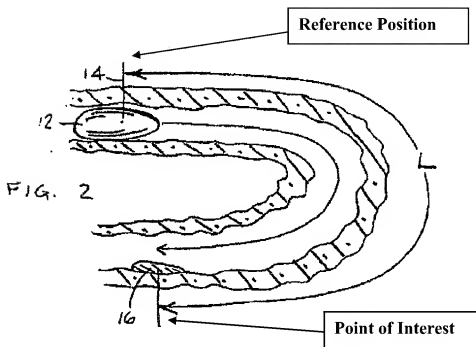
Claims 1-4, 9-10, 14, 16 and 17 are rejected under 35 USC §103(a) as being unpatentable over the combination of U.S. Patent No. 6,904,308 to Frisch et al., U.S. Publication No. 2004/0015075 to Kimchy et al. (Kimchy I), and U.S. Publication No. 2002/0099310 to Kimchy et al. (Kimchy II). Applicant disagrees with and traverses this rejection for the following reasons.

Frisch discloses a system and method for locating an *in vivo* signal source which utilizes an ingestible injectable capsule 100 and an antenna array belt 10 to estimate a position of the capsule inside the subject's body based on the signals as measured by the antennas on the belt. Kimchy I discloses a radioactive emission detector 22 that is equipped with a position tracking system for

calculating the position of a radioactive emitting source in a subject's body. The radioactive emission detector 22 is positioned outside the subject's body and moves on the body to track the position of the radioactive emitting source inside the body. The Examiner states that the combination of Frisch and Kimchy I discloses all of the elements of claim 1 except for measuring a reference position of the transmitter in a subject's mouth before the subject swallows it. The Examiner therefore relies on Kimchy II to disclose this feature.

Kimchy II discloses a gastrointestinal tract sensor that measures a length traveled by the sensor in a gastrointestinal tract of a person from a reference point to a site of interest in the tract. Specifically as shown in Fig. 2 below, a length "L" that the sensor has traveled in the gastrointestinal tract is measured by loading a reference point 14 from the tract and then at another point in the tract at a site of interest 16 such as a place where there is a growth. Thus, reference point 14 is measured in the tract itself, as opposed to at another point in the body outside of the tract, so that an accurate length "L" can be measured in the tract to pinpoint the site of interest. Kimchy II discloses that the system tracks the location of the moving sensor 12 by assigning new reference coordinates to the position of the sensor every few seconds and calculating the distance that the sensor traveled between each position so as to minimize the effects of the movements of the

gastrointestinal tract on the overall accuracy of the calculation of the length traveled by the sensor.



In contrast, amended claim 1, recites, among other things, a method of non-invasive exploration of a subject that includes “measuring a stationary reference position when said transmitting element is in the mouth of the subject, before the subject swallows it,” “said subject swallowing said transmitting element” and “determining, by triangulation on the basis of the at least three phase-shift measurements, a 3D position of said transmitting element.” The combination of Frisch, Kimchy I and Kimchy II fails to disclose or suggest such subject matter.

A person of ordinary skill in the art would not be motivated to combine Frisch, Kimchy I and Kimchy II to achieve the claimed invention. As stated above, Kimchy II discloses a method for detecting a site of interest in a gastrointestinal tract that measures the length “L” that a sensor travels within that tract. Thus, Kimchy II discloses measuring the distance or length that a moving sensor has traveled and determining a particular position of the sensor in the tract. A person of ordinary skill in the art would not be motivated to combine the above references to achieve the claimed invention where Kimchy II specifically discloses measuring positions of the sensor in the gastrointestinal tract to ensure accurate measurements and where no other locations in the body are even contemplated.

Nevertheless, even if the references are combined, the combination of Frisch, Kimchy I and Kimchy II fails to disclose or suggest the subject matter of amended claim 1. Amended claim 1 recites, among other things, the step of measuring a stationary reference position when the transmitting element is the mouth of the subject, before the subject swallows the element. By measuring the stationary sensor in the subject’s mouth, the system obtains an accurate signal and thereby an accurate position of the sensor from which to base future position measurements. Also, the claimed method determines a 3D position of the element in a patient’s digestive system.

Kimchy II, on the other hand, determines a reference position in the gastrointestinal tract as shown in Fig. 2 and not at a different point of the body such as in the subject's mouth. Measuring the reference point 14 of the sensor 12 in the tract itself enables a user to get an accurate measurement of the length that the moving sensor has traveled within the tract.

Furthermore, reference point 14 is measured in the gastrointestinal tract while the sensor 12 is moving through the tract. The sensor 12 is not stationary or otherwise stopped within the tract to measure the reference point. Also, Kimchy II does not disclose or suggest measuring a reference position when the transmitting element is stationary in the mouth of a subject or in any other part of the body as recited in amended claim 1.

Accordingly, Applicant submits that amended claim 1, and the claims that depend therefrom, are each patentably distinguished over the combination of Frisch, Kimchy I and Kimchy II.

Amended claim 9 recites, among other things, a non-invasive exploration system that includes "means for measuring a stationary reference position when said transmitting element is in the mouth of the subject, before the subject swallows it" and determining "a 3D position of said transmitting element." As stated above, the combination of Frisch, Kimchy I and Kimchy II fails to disclose or suggest such subject matter. Applicant therefore submits that amended

claim 9, and the claims that depend therefrom, are each patentably distinguished over the cited combination and in condition for allowance.

Claim 20 is rejected under 35 USC §103(a) as being unpatentable over the combination of Frisch, Kimchy I, Kimchy II and PCT Document WO 00/22975 to Iddan et al. (Iddan I). Applicant disagrees with and traverses this rejection for the following reason.

Amended claim 20 includes similar subject matter to amended claims 1 and 9. Specifically, amended claim 20 recites, among other things, a method of non-invasive exploration for assessing the digestive motility and transit of a human or animal subject including “providing a plurality of ingestible transmitting elements, each of said transmitting elements being non-digestible and containing a transmission means for transmitting at a given fixed frequency,” “measuring a stationary reference position when each said transmitting element is in the mouth of the subject, before the subject swallows it,” “swallowing said ingestible transmitting elements over a period of time” and determining “the 3D position of each of said transmitting elements, data for an assessment of the digestive motility and transit.” The combination of Frisch, Kimchy I, Kimchy II and Iddan I fails to disclose or suggest such subject matter.

The Examiner states that the combination of Frisch, Kimchy I and Kimchy II discloses the subject matter of amended claim 20 except for ingesting

several transmitting elements over a period of time when each transmitting element has a characteristic frequency and are intended to be ingested by the subject over a period of time. The Examiner therefore relies on Iddan I to disclose this subject matter.

Iddan I discloses a method for delivering a device to a target location in a gastrointestinal tract 62. Repeated movements of the capsule 60 through the tract helps to generate a map of the route taken by capsule through the tract. Iddan I discloses delivering a sensing device or different sensing devices through one or more passes through a gastrointestinal tract for gathering data. Iddan I specifically discloses using a camera system that transmits video signals from the capsule.

In contrast, the claimed method includes a transmitting element that sends frequency signals that are used to detect a position of the element in the digestive tract of a subject. The claimed method does not utilize video or video signals as in Iddan I. Applicant therefore submits that a person of ordinary skill in the art would not be motivated or have reason to combine Frisch, Kimchy I and Kimchy II with Iddan I to disclose the claimed method where Iddan discloses a completely different system utilizing video signals.

Nevertheless, Iddan I discloses generating a map of the gastrointestinal tract after making one or more passes through the tract using a

capsule. Iddan I does not disclose or suggest measuring a reference position at any point in the tract such as in the subject's mouth. The map is also generated while the capsule is moving through the gastrointestinal tract. Thus, Iddan I fails to disclose or suggest measuring the reference position or any position when the capsule is stationary as recited in amended claim 20. Furthermore, Iddan I discloses generating a map of the tract and does not disclose or suggest determining a 3D position of the element within the tract.

Accordingly, Applicant submits that amended claim 20 is patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Iddan I and in condition for allowance.

Claims 12, 13 and 15 are rejected under 35 USC §103(a) as being unpatentable over Frisch, Kimchy I, Kimchy II and in further view of WO 01/50941 to Refael. Claims 12, 13 and 15 depend from amended claim 9. Applicant therefore submits that claims 12, 13 and 15 are patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Refael for at least the reasons provided above with respect to amended claim 9. Furthermore, Refael does not disclose or suggest "means for measuring a reference position [of a]...transmitting element...before the subject swallows it" and "measuring a stationary reference position" while in the subject's mouth.

Accordingly, Applicant submits that claims 12, 13 and 15 are each patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Refael and in condition for allowance.

Claims 7 and 18 are rejected under 35 USC § 103(a) as being unpatentable over Frisch, Kimchy I, Kimchy II and in further view of U.S. Patent No. 5,415,181 to Hogrefe et al. Claim 7 depends from amended claim 1 and claim 18 depends from amended claim 9. Applicant therefore submits that claims 7 and 18 are patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Hogrefe for at least the reasons provided above with respect to amended claims 1 and 9. Furthermore, Hogrefe discloses a biomedical monitoring system using AM and FM signal transmission. Hogrefe does not disclose or suggest “measuring a reference position [of a]...transmitting element...before the subject swallows it,” or “measuring a stationary reference position” in a subject’s mouth or any other part of their body. Accordingly, Applicant submits that claims 7 and 18 are patentably distinct from the combination of Frisch, Kimchy I, Kimchy II and Hogrefe and in condition for allowance.

Claims 8 and 19 are rejected under 35 USC § 103(a) as being unpatentable over Frisch, Kimchy I, Kimchy II and in further view of Iddan I. Claim 8 depends from amended claim 1 and claim 19 depends from amended claim 9. Therefore, Applicant submits that claims 8 and 19 are patentably

distinguished over the combination of Frisch, Kimchy I, Kimchy II and Iddan I for at least the reasons provided above with respect to amended claims 1 and 9. Furthermore as stated above, Iddan I fails to remedy the deficiencies of Frisch, Kimchy I and Kimchy II.

Accordingly, Applicant submits that claims 8 and 19 are each patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Iddan I and in condition for allowance.

Claims 6 and 11 are rejected under 35 USC § 103(a) as being unpatentable over Frisch, Kimchy I, Kimchy II and in further view of European Patent No. 0667115 to Iddan et al. (Iddan II). Claim 6 depends from amended claim 1 and claim 11 depends from amended claim 9. Therefore, Applicant submits that claims 6 and 11 are patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Iddan II for at least the reasons provided above with respect to amended claims 1 and 9. Furthermore, Iddan II discloses an in vivo video camera system. Iddan II does not disclose or suggest “measuring a stationary reference position [of a]...transmitting element” when it is in the subject’s mouth. Accordingly, Applicant submits that claims 6 and 11 are each patentably distinguished over the combination of Frisch, Kimchy I, Kimchy II and Iddan II and in condition for allowance.

Serial No.: 10/522,055
Office Action dated August 3, 2009
Amendment dated December 10, 2009

Applicant submits that in view of the above-identified amendments and remarks, the claims in their present form are patentably distinct over the art of record. Allowance of the rejected claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,

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